J. W. VERMILLION.
Pipe-Wrench.

No. 196,401. Patented Oct. 23, 1877.

FIG. I

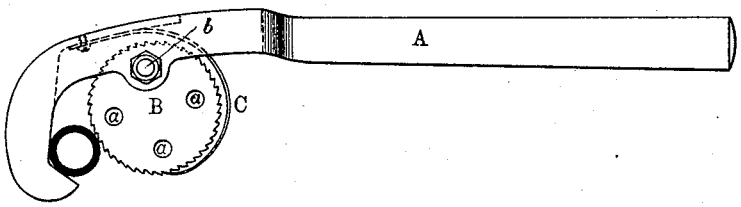
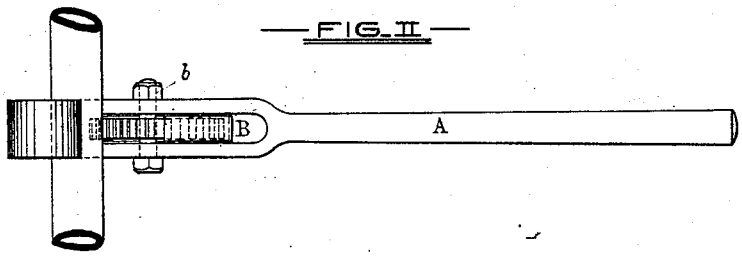


FIG. II



WITNESSES

Wm. H. Towson

W. W. Wharton

INVENTOR

John W. Vermillion,

by G. H. & S. Howard
his Attys.

UNITED STATES PATENT OFFICE.

JOHN W. VERMILLION, OF ELK RIDGE LANDING, ASSIGNOR TO CHARLES E. BROWN, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN PIPE-WRENCHES.

Specification forming part of Letters Patent No. **196,401**, dated October 23, 1877; application filed April 5, 1877.

To all whom it may concern:

Be it known that I, JOHN W. VERMILLION, of Elk Ridge Landing, in the county of Howard and State of Maryland, have invented certain Improvements in Pipe-Wrenches, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention relates to an improved wrench, to be used in the coupling and uncoupling of pipes of various sizes, and to turn bolts, rods, and the like, unprovided with heads of polygonal or irregular shape; and consists, first, in pivoting within a groove or slot in a bar, one end of which is hooked, and thereby adapted as the fixed side or jaw of the pipe-wrench, a toothed or serrated disk, in such manner as to admit of the said disk having a limited rotary movement in its operation as the movable jaw of the said wrench.

The invention consists, secondly, in a novel construction of the said toothed or serrated disk, whereby its position, with reference to the fixed jaw, may be changed in case of certain of the teeth becoming worn or otherwise impaired in efficiency, as hereinafter described.

In the accompanying drawing, forming a part hereof, Figure 1 is a side view of the improved wrench applied to a pipe, and Fig. 2 an edge view of the same.

Similar letters of reference indicate similar parts of the invention in both figures.

A is the bar, one end of which is bent in the shape of a hook, to form the fixed jaw of the wrench. The movable jaw of the wrench consists of a toothed disk, B, pivoted within a slot or groove in the bar A. The said disk is provided with one or more holes, *a*, any one of which may be used in connection with a pin or bolt, *b*, and a hole in the bar, to couple the said parts of the wrench together.

By placing the disk B in a slot or groove in the bar A, as shown, the pin or bolt *b* is supported at either end, and the disk being sustained laterally, the said bolt *b* is subjected to a shearing strain only in the operation of the wrench.

The distance between the holes and the center of the disk is such as to give to the said disk the required eccentricity to adapt it as a circular wedge, which wedge, when the device is applied to a pipe or bolt and turned or moved circumferentially in one direction, is drawn in close contact with the pipe or bolt, and causes it to turn therewith.

The object in furnishing the disk with a series of holes, each one of which is adapted for use as described, is to allow the position of the disk to be changed in case certain of the teeth become impaired in efficiency from wear.

A slight tension is placed upon the disk, in a direction to keep it in contact with the pipe or bolt, by means of a spring, C, of any desired shape, and applied in any manner best suited to accomplish the object in view.

The operation of the wrench needs no special description, as it will be readily understood by any practical pipe-fitter or machinist.

It is my purpose to adapt the disk as a cutter by sharpening its edge and otherwise modifying its construction; but I do not claim this construction herein, it being my intention to embody this latter improvement in a future application.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. In combination with a bar having a hooked end adapted as the fixed jaw of a pipe-wrench, a movable jaw, consisting of a circular toothed or serrated disk pivoted eccentrically within alongitudinal groove in the said bar, and thereby adapted to have a limited rotary movement around or upon the bolt or pin securing it within the said groove and to the bar, substantially as herein shown and described.

2. In a pipe-wrench consisting of a hooked bar and a pivoted toothed or serrated disk, as described, the said disk provided with a series of holes, each one of which is adapted to be used in coupling or connecting the said disk to the bar by means of a bolt or pin, substantially as and for the purpose herein specified.

In testimony whereof I have hereunto subscribed my name this 24th day of March, in the year of our Lord 1877.

JNO. W. VERMILLION.

Witnesses:

HARMAN H. RESAN,

CHAS. E. BROWN.